



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.                         | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/841,695                              | 04/24/2001  | James A. Proctor JR. | 2479.2072-000       | 4395             |
| 21005 7590 03/29/2004                   |             |                      |                     |                  |
| HAMILTON, BROOK, SMITH & REYNOLDS, P.C. |             |                      |                     |                  |
| 530 VIRGINIA ROAD                       |             |                      |                     |                  |
| P.O. BOX 9133                           |             |                      |                     |                  |
| CONCORD, MA 01742-9133                  |             |                      |                     |                  |
|   |             |                      | EXAMINER            |                  |
|   |             |                      | EWART, JAMES D      |                  |
|   |             | ART UNIT             | PAPER NUMBER        |                  |
|   |             | 2683                 |                     |                  |

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/841,695

Applicant(s)

PROCTOR ET AL.

Examiner

James D Ewart

Art Unit

2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13, 15, 17-32, 34, 36 and 38-43 is/are rejected.
- 7) ☒ Claim(s) 12, 14, 16, 33, 35 and 37 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

*Drawings*

1. Figures need labeling to indicate what each object represents such as Figure 1; 18 and Figure 2.

*Claim Rejections - 35 USC § 112*

2. Claim 1 recites the limitation " the central transceiver device " in Lines 12-13. There is insufficient antecedent basis for this limitation in the claim. Examiner assumes it should be replaced with remote wireless transceiver device and interprets it as such.

*Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless – (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-4, 10, 11, 20-25, 31, 32 and 40, are rejected under 35 U.S.C. 102(e) as being anticipated by Mahany (U.S. Patent No. 6,697,415).

Referring to claim 1, Mahany teaches a method for managing transmission constraints based on subscriber device capabilities comprising: determining a set of device capabilities corresponding to a transceiver device (Column 9, Line 42 to Column 5, Line 3); registering the device capabilities with a remote wireless transceiver device (Column 9, Lines 42-54); computing a set of transmission constraints based on the device capabilities (Column 15, Lines 15-22); and applying the transmission constraints corresponding to the transceiver device to transmissions between the transceiver device and the remote wireless transceiver device (Column 5, Line 66 to Column 6, Line 6 & Figure 1B, 409, 411, 413).

Referring to claim 21, Mahany teaches a system for managing transmission constraints in a wireless network comprising: a plurality of wireless transceiver devices operable to transmit and receive wireless messages (Figure 1A), the wireless transceiver devices having device capabilities (Column 9, Line 42 to Column 5, Line 3); a registration manager operable to compute transmission constraints for the wireless transceiver devices based on the device Capabilities (Column 9, Lines 42-54 and Column 15, Lines 15-22)); and a capacity manager operable to apply the transmission constraints to at least one of the wireless transceiver devices (Column 5, Line 66 to Column 6, Line 6 & Figure 1B, 409, 411, 413).

Referring to claim 2, Mahany further teaches wherein the transceiver device is a wireless subscriber access unit and the central transceiver device is a base station processor (Column 11, Lines 52-58).

Referring to claim 3 and 24, Mahany further teaches wherein the transmission constraints include parameters selected from the group consisting of transmission power, forward error correction (FEC) coding rate, and modulation (Column 9, Lines 41-47).

Referring to claims 4 and 25, Mahany further teaches wherein the device capabilities include parameters selected from the group consisting of fixed, mobile, and pedestrian (Column 5, Lines 47-54 and Column 32, Lines 16-25).

Referring to claims 10 and 31, Mahany further teaches wherein computing the transmission constraints further comprises computing transmission constraints in response to observed transmission characteristics (Column 4, Line 64 to Column 4, Line 3 & Column 5, Lines 27-31).

Referring to claims 11 and 32, Mahany further teaches wherein the observed transmission characteristics include characteristics selected from the group consisting of bit error rate (BER), interference level, dropped packets, and received power level (Column 9, Lines 42-52 & 61-64).

Referring to claims 20 and 40, Mahany further teaches wherein the device capabilities are stored at the Subscriber Access Unit and are sent by the subscriber access unit to the base station processor (Column 9, Lines 48-52 & Figure 22B).

Referring to claim 22, Mahany further teaches further comprising a registration database operable to store the device capabilities corresponding to the wireless transceiver devices (Column 9, Lines 43-52 and Column 11, Lines 52-58).

Referring to claim 23, Mahany further teaches wherein the transceiver devices further comprise wireless subscriber access units (Figure 1A) and base station processors (Column 11, Lines 52-58), wherein the registration manager is in the base station processor (Column 9, Lines 43-52).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5,9,26 and 30 are rejected under 35 USC 103(a) as being unpatentable over Mahany in view of Tiedemann,, Jr. et al (US Patent No. 5,588,043) and further in view of Campbell (US Patent No. 6,008,758).

Referring to claims 5 and 26, Mahany teaches the limitations of claim 5 and 26, but does not teach registering the class of device. Tiedemann,, Jr. et al teaches registering the class of device (Column 8, Lines 8-17). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Mahany with the teaching of Tiedemann,, Jr. et al of registering the class of device to provide an improved registration method (Column n6, Lines 43-48). Mahany and Tiedemann,, Jr. et al teach the limitations of claim 5, but do not teach the class includes antenna characteristics. Campbell teaches the class includes antenna characteristics (Column 6, Lines 29-39). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of the Mahany and Tiedemann,, Jr. et al combination with the teaching of Campbell wherein the class includes antenna characteristics to make a distinction between classes (Column 6, Lines 30-39)

Referring to claims 9 and 30, Mahany further teaches wherein the antenna characteristics include characteristics selected from the group consisting of omnidirectional, one degree of freedom, and multiple degrees of freedom (Figure 21). Examiner interprets antennas of 1454 as omnidirectional.

5. Claims 6-8 and 27-29 are rejected under 35 USC 103(a) as being unpatentable over Mahany, Tiedemann,, Jr. et al, and Campbell and further in view of Fernandes (US Patent No. 6,366,244)

Referring to claims 6 and 27, Mahany, Tiedemann,, Jr. et al, and Campbell teach the limitations of claims 6 and 27, but do not teach wherein the device capabilities are indicative of an antenna array. Fernandes teaches wherein the device capabilities are indicative of an antenna array (Column 2, Lines 38-43). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Mahany, Tiedemann,, Jr. et al, and Campbell with the teaching of Fernandes wherein the device capabilities are indicative of an antenna array to provide an all weather antenna (Column 2, Lines 38-39).

Referring to claims 7 and 28, Fernandes further teaches wherein the antenna array comprises one radiating element (Column 2, Line 42).

Referring to claim 8 and 29, Fernandes further teaches wherein the antenna array comprises radiating elements (Column 2, Line 42).

6. Claims 13 and 34 are rejected under 35 USC 103(a) as being unpatentable over Mahany in view of Komara et al. (U.S. Patent No. 5,926,747).

Referring to claims 13 and 34, Mahany teaches the limitations of claims 13 and 34, but do not teach the transmission constraints limit the power level when the device capabilities indicate mobile. Komara et al teaches wherein the transmission constraints limit the power level when the device capabilities indicate mobile (Column 2, Lines 7-18). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to



combine the art of Mahany with the teaching of Komara et al wherein the transmission constraints limit the power level when the device capabilities indicate mobile to increase capacity (Column 1, Lines 62-63)

7. Claims 15 and 36 are rejected under 35 USC 103(a) as being unpatentable over Mahany in view of Edwards et al. (U.S. Patent No. 6,216,010).

Referring to claims 15 and 36, Mahany teaches the limitations of claims 15 and 36, but does not teach the transmission constraints include transmitting at an increased power level when the device capabilities indicate fixed. Edwards et al. teaches the transmission constraints include transmitting at an increased power level when the device capabilities indicate fixed (Column 2, Lines 56-65). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Mahany with the teaching of Edwards et al. wherein the transmission constraints include transmitting at an increased power level when the device capabilities indicate fixed to provide an improved uplink power control system (Column 2, Lines 47-57). The transmit power is directly proportional to the distance of the fixed station from the base station.

8. Claims 17,18,38 and 41-43 are rejected under 35 USC 103(a) as being unpatentable over Mahany in view of Tiedemann,, Jr. et al.

Referring to claims 17 and 38, Mahany teaches the limitations of claims 17 and 38, but does not teach wherein the device capabilities are received from a centrally located database in electronic communication with the base station processor. Tiedemann Jr, et al teaches wherein the device capabilities are received from a centrally located database in electronic communication with the base station processor (Figure 1). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Mahany with the teaching of Tiedemann Jr, et al wherein the device capabilities are received from a centrally located database in electronic communication with the base station processor to provide an improved method of registration (Column 6, Lines 43-48)

Referring to claim 18, Tiedemann Jr, et al further teaches wherein the centrally located database stores a predetermined sets of data (Figure 1).

Referring to claims 41-43, Mahany teaches a computer program product having computer program code for managing transmission constraints based on subscriber device capabilities comprising: computer program code for determining a set of device capabilities corresponding to a transceiver device (Column 9, Line 42 to Column 5, Line 3); computer program code for registering the device capabilities with a wireless transceiver device (Column 9, Lines 42-54); computer program code for computing a set of transmission constraints based on the device capabilities (Column 15, Lines 15-22); and computer program code for applying the transmission constraints corresponding to the transceiver device to transmissions between the transceiver device and the central transceiver device (Column 5, Line 66 to Column 6, Line 6 &

Figure 1B, 409, 411, 413), but does not teach registering with a central wireless transceiver device. Tiedemann Jr, et al teaches registering with a central wireless transceiver device (Figure 1). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Mahany with the teaching of Tiedemann Jr, et al of registering with a central wireless transceiver device to provide an improved method of registration (Column 6, Lines 43-48)

9. Claims 19 and 39 are rejected under 35 USC 103(a) as being unpatentable over Mahany and Tiedemann,, Jr. et al. and further in view of Csapo (US Patent No. 5,910,946).

Referring to claims 19 and 39, Mahany and Tiedemann,, Jr. et al. teach the limitations of claims 19 and 39 including storing in a centrally located data base, but do not teach using a Wireless Internet Facility (WIF). Csapo teaches using a Wireless Internet Facility (WIF) (Column 1, Lines 6-13). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Mahany and Tiedemann,, Jr. et al. with the teaching of Csapo of using a Wireless Internet Facility to reduce interconnection costs (Column 1, Line 65)

***Allowable Subject Matter***

10. Claims 12, 14, 16, 33, 35, and 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Referring to claims 12 and 33, the references cited teach the limitations of claims 12 and 33, but do not teach allocating a greater data rate to a subscriber corresponding to an antenna having at least one degree of freedom than to a subscriber corresponding to an omnidirectional antenna.

Referring to claims 14 and 35, the references cited teach the limitations of claims 14 and 35, but do not teach wherein the power level is 23 dBm when the device capabilities indicate mobile.

Referring to claims 16 and 37, the references cited teach the limitations of claims 16 and 37, but do not teach wherein the transmission constraints include a power level greater than 23 dBm when the device capabilities indicate fixed.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bondyopadhyay U.S. Patent No. 5,886,667 discloses integrated microstrip helmet antenna system.

Ekbatani U.S. Patent No. 5,754,955 discloses providing mobile communications system services in dependence on identification of cell where a mobile-originated call was initiated.

Fujii et al. U.S. Patent No. 5,212,823 discloses radio communication system.

Halpern U.S. Patent No. 4,613,990 discloses radiotelephone transmission power control.

Application/Control Number: 09/841,695

Art Unit: 2683

Itoh et al U.S. Patent No. 5,490,287 discloses wireless communication device and printing system using the same.

Jung U.S. Patent No. 5,239,695 discloses radio-frequency power control circuit of mobile radiophone.

Kim et al. U.S. Patent Publication No. 2002/0191570 discloses method and device for transmitting/receiving data rate information in a mobile communication system

Kunkel U.S. Patent No. 5,175,871 discloses power amplifier for a cellular telephone.

Leem U.S. Patent No. 6,452,912 discloses method for searching cells in mobile communication system.

Mahany et al. U.S. Patent No. 5,483,676 discloses mobile radio communication system and method.

Martek U.S. Patent No. 6,429,825 discloses cavity slot antenna.

Mitzlaff U.S. Patent No. 4,636,741 discloses multi-level amplifying circuitry for portable radio transceivers.

O'Reilly U.S. Patent No. 6,411,818 discloses assessing path imbalance in mobile communications networks.

Proctor, Jr. U.S. Patent No. 6,473,036 discloses method and apparatus for adapting antenna array to reduce adaptation time while increasing array performance

Trandai et al. U.S. Patent No. 5,893,036 discloses transmission power control method.

Svensson PCT/SE96/00555 discloses antenna guided power control.

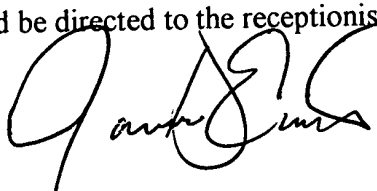
Application/Control Number: 09/841,695

Art Unit: 2683

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D Ewart whose telephone number is (703) 305-4826. The examiner can normally be reached on M-F 7am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (703)308-5318. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.



Ewart  
March 17, 2004



WILLIAM TROST  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600